ENDOSCOPE ASSEMBLIES HAVING WORKING CHANNELS WITH REDUCED BENDING AND STRETCHING RESISTANCE

ABSTRACT OF THE DISCLOSURE

Apparatus and methods for endoscope assemblies having working channels with reduced bending and stretching resistance are disclosed. In one embodiment, an endoscope assembly includes a sheath having a body portion adapted to at least partially encapsulate an endoscopic insertion tube, and a working channel attached to the body portion and extending along at least a portion of the body portion. The working channel includes a component for reducing the resistance of the assembly to bending and stretching. In alternate aspects, the working channel may include a cut, a gap, a sliding portion, or an expansion section. Endoscope assemblies having a working channel in accordance with the invention advantageously reduce the articulation and stretching resistance of the assembly during articulation of the endoscope assembly. Also, because the axial forces (tension and compression) within the working channel are reduced, the working channel can be fabricated out of a relatively hard, inelastic material, thereby reducing the friction within the working channel and improving the physician's ability to perform a medical procedure.